

Remarks

The Office Action mailed October 03, 2003 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-25 are now pending in this application. Claims 1-25 stand rejected. Claims 13, 14, 24 and 25 stand objected to.

In accordance with 37 C.F.R. 1.136(a), a two month extension of time is submitted herewith to extend the due date of the response to the Office Action dated October 03, 2003, for the above-identified patent application from January 03, 2004, through and including March 03, 2004. In accordance with 37 C.F.R. 1.17(a)(2), authorization to charge a deposit account in the amount of \$410.00 to cover this extension of time request also is submitted herewith.

Applicants note the objection to the drawings indicated in the Office Action. More specifically, Applicants are herewith submitting replacement formal drawings of Figures 1-5. Additionally, Applicants respectfully traverse the objection to the drawings that "reference character 154 has been used to designate both inner surface and raised portion of an endsheild". Specifically, with respect to Figure 3, and in accordance with the specification, reference character "154" designates endshield inner surface and reference character "156" designates the raised portion.

For the reasons set forth above, Applicants request that the objections to the drawings be withdrawn.

The objection to the specification is respectfully traversed. More specifically, the specification has been amended to properly identify "control assembly 104". For the reasons set forth above, Applicants request that the objection to the specification be withdrawn.

The rejection of Claims 1-3, 10, 12, 16; 17, and 21 under 35 U.S.C. § 102(b) as being anticipated by Permuy (U.S. Patent No. 6,031,306) is respectfully traversed.

Permuy describes a motor having an electronic control device 14 that is mounted adjacent to an end plate 4 within a motor casing 2. Control device 14 includes a printed circuit board 16 which carries the electronic components which constitute a circuit for determining and controlling the power supply to the motor. The motor includes a thermal screen 22 that is interposed axially between an armature 8 and electronic control device 14, and having an outer circular frame or hoop portion 24. Thermal screen 22 includes four flat metallic panels 26-29, respectively, that extend from the circular frame 24 inwardly toward a commutator 12. Thermal screen also includes straight cooling fins 32 which project outwardly away from circular frame 24 and into the stream of air generated by a fan rotor 13 such that thermal screen 22 captures heat given off by electronic control device 14 and dissipates that heat via cooling fins 32.

Claim 1 recites a motor endshield assembly that includes “an endshield comprising an outer surface, an inner surface, a shaft opening extending therebetween, and a plurality of recessed fins extending radially outward from said shaft opening towards an outer periphery of the endsheild, such that each of said recessed fins is positioned between said outer surface and said inner surface.”

Permuy does not describe or suggest a motor endshield assembly as recited in Claim 1. More specifically, Permuy does not describe or suggest an endshield having recessed fins extending radially outward from a shaft opening towards an outer periphery of the endsheild, such that each of the recessed fins is positioned between an outer surface and an inner surface of the endsheild. Rather, in contrast to the present invention, Permuy describes a motor thermal screen having an outer circular frame and cooling fins which project outwardly away from the circular frame into the stream of air generated by a fan rotor. In other words, the cooling fins extend radially out from an outer periphery of the circular frame and as such do not extend radially outward from a shaft opening towards an outer periphery of the endsheild as recited in Claim 1. Accordingly, Claim 1 is submitted to be patentable over Permuy.

Claims 2-3, 10 and 12 depend, directly or indirectly, from independent Claim 1. When the recitations of Claims 2-3, 10 and 12 are considered in combination with the

recitations of Claims 1, Applicants submit that dependent Claims 2-3, 10 and 12 likewise are patentable over Permuy.

Claim 16 recites a motor endshield for an electronically commutated motor, the endshield includes “a shaft opening configured to receive a motor shaft...an internal surface comprising a substantially flat raised area...an external surface comprising a raised cylindrical portion surrounding said opening and a plurality of recessed fins extending radially outward from said shaft opening towards an outer periphery of the endsheild, such that each of said recessed fins is positioned between said external surface and said internal surface.”

Permuy does not describe or suggest a motor endshield for an electronically commutated motor as recited in Claim 16. More specifically, Permuy does not describe or suggest an endshield having an external surface that includes a plurality of recessed fins extending radially outward from a shaft opening towards an outer periphery of the endsheild, such that each of the recessed fins is positioned between the external surface and an internal surface. Rather, in contrast to the present invention, Permuy describes a motor thermal screen having an outer circular frame and cooling fins which project outwardly away from the circular frame into the stream of air generated by a fan rotor. In other words, the cooling fins extend radially out from an outer periphery of the circular frame and as such do not extend radially outward from a shaft opening towards an outer periphery of the endsheild as recited in Claim 16. Accordingly, Claim 16 is submitted to be patentable over Permuy.

Claim 17 depends from independent Claim 16. When the recitations of Claim 17 are considered in combination with the recitations of Claims 16, Applicants submit that dependent Claim 17 likewise is patentable over Permuy.

Claim 21 recites a method of assembling a motor endshield assembly for an electronically commutated motor, wherein the endshield includes an inner surface, an outer surface, a shaft opening extending therebetween, and a plurality of recessed fins extending radially outward from the shaft opening towards an outer periphery of the endsheild, such that each of the recessed fins is positioned between the outer surface and the inner surface,

the method includes “positioning the control assembly in contact with the inner surface of the endshield...connecting the power assembly to the control assembly.”

Permuy does not describe or suggest a method of assembling a motor endshield assembly for an electronically commutated motor as recited in Claim 21. More specifically, Permuy does not describe or suggest an endshield having an inner surface, an outer surface, a shaft opening extending therebetween, and a plurality of recessed fins extending radially outward from the shaft opening towards an outer periphery of the endsheild, such that each of the recessed fins is positioned between the outer surface and the inner surface. Rather, in contrast to the present invention, Permuy describes a motor thermal screen having an outer circular frame and cooling fins which project outwardly away from the circular frame into the stream of air generated by a fan rotor. In other words, the cooling fins extend radially out from an outer periphery of the circular frame and as such do not extend radially outward from a shaft opening towards an outer periphery of the endsheild as recited in Claim 21. Accordingly, Claim 21 is submitted to be patentable over Permuy.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1-3, 10, 12, 16, 17, and 21 be withdrawn.

The rejection of Claims 11 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Permuy (U.S. Patent No. 6,031,306) in view of Search (U.S. Patent No. 972,929) is respectfully traversed.

Permuy is described above. Search describes a dynamo-electric machine including a housing 10 having an end cover 12. End cover 12 includes a man hole 34 which enables the interior of housing 10 to be accessed without removing end cover 12. Man hole 34 is sized such that a workman can clean, adjust and/or repair parts, such as the coils or fan blades, within the housing 10, and is closed by a cover 35.

Applicants respectfully submit that the Section 103 rejection of the presently pending claims is not a proper rejection. As is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some

teaching, suggestion, or incentive supporting the combination. Neither Permuy nor Search, considered alone or in combination, describe or suggest the claimed combination.

Furthermore, in contrast to the assertion within the Office Action, Applicants respectfully submit that it would not be obvious to one skilled in the art to combine Permuy with Search, because there is no motivation to combine the references suggested in the art. Additionally, the Examiner has not pointed to any prior art that teaches or suggests combining the disclosures, other than Applicants' own teaching. Rather, only the conclusory statement that "it would have been obvious to one of ordinary skill in the art to combine" the structure of the motor endshield of Permuy with the structure of Search "in order to have an easier access to the internal compartments of the motor" suggests combining the disclosures.

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. Ex parte Levengood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicants' disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicant's disclosure. In re Vaeck, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion or motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown. Moreover, Applicants respectfully suggest that no combination of Permuy and Search would provide a reasonable expectation of success. Specifically, Permuy describes a motor having a thermal screen having an outer circular frame or hoop portion and straight cooling fins which project away from the circular frame into the stream of air generated by a fan rotor, and in contrast Search describes an electric machine having a housing with an end cover that includes a man hole sized to enable a worker to access the interior of the housing. Accordingly, Applicants submit that there is no teaching nor suggestion in these two patents other than a motor including cooling fins extending radially out from the outer periphery of the circular frame.

Furthermore, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the cited art so that the claimed invention is rendered obvious. Specifically, one cannot use hindsight reconstruction to pick and choose

among isolated disclosures in the art to deprecate the claimed invention. Further, it is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. The present Section 103 rejection is based on a combination of teachings selected from multiple patents in an attempt to arrive at the claimed invention. Specifically, Permuy describes cooling fins which project away from the circular frame into the stream of air generated by a fan rotor, and Search describes an electric machine having a housing with an end cover that includes a man hole for accessing the interior of the housing. Since there is no suggestion in the cited art for the combination, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicants request that the Section 103 rejections be withdrawn.

Further, and to the extent understood, neither Permuy nor Search, considered alone or in combination, describe or suggest the claimed combination, and as such, the presently pending claims are patentably distinguishable from the cited combination. Specifically, Claim 1 recites a motor endshield assembly that includes “an endshield comprising an outer surface, an inner surface, a shaft opening extending therebetween, and a plurality of recessed fins extending radially outward from said shaft opening towards an outer periphery of the endsheild, such that each of said recessed fins is positioned between said outer surface and said inner surface.”

Neither Permuy nor Search, considered alone or in combination, describe or suggest a motor endshield assembly as recited in Claim 1. More specifically, neither Permuy nor Search, considered alone or in combination, describe or suggest an endshield having recessed fins extending radially outward from a shaft opening towards an outer periphery of the endsheild, such that each of the recessed fins is positioned between an outer surface and an inner surface of the endsheild. Rather, in contrast to the present invention, Permuy describes a motor having a thermal screen having an outer circular frame or hoop portion and straight cooling fins which project away from the circular frame into the stream of air generated by a

fan rotor such that the thermal screen captures heat given off by the electronic control device and dissipates that heat into the stream of air via the cooling fins, and Search describes an electric machine having a housing with an end cover that includes a man hole for accessing the interior of the housing, wherein the man hole is sized such that a workman can clean, adjust or repair the parts within the housing. For at least the reasons set forth above, Claim 1 is submitted to be patentable over Permuy in view of Search.

Claim 11 depends from independent Claim 1. When the recitations of Claim 11 are considered in combination with the recitations of Claims 1, Applicants submit that dependent Claim 11 likewise is patentable over Permuy in view of Search.

Claim 16 recites a motor endshield for an electronically commutated motor, the endshield includes “a shaft opening configured to receive a motor shaft...an internal surface comprising a substantially flat raised area...an external surface comprising a raised cylindrical portion surrounding said opening and a plurality of recessed fins extending radially outward from said shaft opening towards an outer periphery of the endsheild, such that each of said recessed fins is positioned between said external surface and said internal surface.”

Neither Permuy nor Search, considered alone or in combination, describe or suggest a motor endshield for an electronically commutated motor as recited in Claim 16. More specifically, neither Permuy nor Search, considered alone or in combination, describe or suggest an endshield having an external surface that includes a plurality of recessed fins extending radially outward from a shaft opening towards an outer periphery of the endsheild, such that each of the recessed fins is positioned between the external surface and an internal surface. Rather, in contrast to the present invention, Permuy describes a motor having a thermal screen having an outer circular frame or hoop portion and straight cooling fins which project away from the circular frame into the stream of air generated by a fan rotor such that the thermal screen captures heat given off by the electronic control device and dissipates that heat into the stream of air via the cooling fins, and Search describes an electric machine having a housing with an end cover that includes a man hole for accessing the interior of the housing, wherein the man hole is sized such that a workman can clean, adjust or repair the

parts within the housing. Accordingly, Claim 16 is submitted to be patentable over Permuy in view of Search.

Claim 18 depends from independent Claim 16. When the recitations of Claim 18 are considered in combination with the recitations of Claims 16, Applicants submit that dependent Claim 18 likewise is patentable over Permuy in view of Search.

The rejection of Claims 13, 14, 24, and 25 under 35 U.S.C. § 103(a) as being unpatentable over Permuy (U.S. Patent No. 6,031,306) in view of Takagi et al. (U.S. Patent No. 6,081,056) is respectfully traversed.

Initially, Applicants respectfully submit that, as indicated at page 8 of the Office Action, Claims 13, 14, 24 and 25 define allowable subject matter and are only objected to “as being dependant upon a rejected base claim, but would otherwise be allowable if rewritten in independent form....” More specifically, the Office Action indicates that the cited prior art does not disclose “clamp bars extending through an insulator between the power assembly and the control assembly”. Accordingly, Applicants respectfully traverse the rejection of Claims 13, 14, 24 and 25.

Furthermore, Permuy is described above. Takagi et al. describe a motor 1 including a casing 2, a stator 10, a rotor 14 and a control system 20 having a first circuit board 21 and a second circuit board 22 disposed to face each other. One of first and second circuit boards 21 or 22 is configured to include an inverter control circuit, and the remaining first or second circuit board 21 or 22 is configured to include a power circuit. Six switching elements 24 are disposed on the leading end of circuit board 21 and a radiating sheet 29 is positioned between the top face (leading end face) of each switching element 24 and the casing 2 to transmit heat generated by control system 20. Coil spring 28 is disposed between first circuit board 21 and second circuit board 22 thereby pushing second circuit board 22 toward the base end a certain distance away from first circuit board 22 allowing a space for two electrolytic capacitors 23 which are disposed on the base end of first circuit board 21 between first circuit board 21 and second circuit board 22.

Applicants respectfully submit that the Section 103 rejection of the presently pending claims is not a proper rejection. As is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. Neither Permuy nor Takagi et al., considered alone or in combination, describe or suggest the claimed combination. Furthermore, in contrast to the assertion within the Office Action, Applicants respectfully submit that it would not be obvious to one skilled in the art to combine Permuy with Takagi et al., because there is no motivation to combine the references suggested in the art. Additionally, the Examiner has not pointed to any prior art that teaches or suggests combining the disclosures, other than Applicants' own teaching. Rather, only the conclusory statement that "it would have been obvious to one of ordinary skill in the art to combine" the structure of the motor endshield of Permuy with the structure of Takagi et al. "in order to have stabilized the circuit board" suggests combining the disclosures.

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. Ex parte Levengood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicants' disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicant's disclosure. In re Vaeck, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion or motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown. Moreover, Applicants respectfully suggest that no combination of Permuy and Takagi et al. would provide a reasonable expectation of success. Specifically, Permuy describes a motor having a thermal screen having an outer circular frame or hoop portion and straight cooling fins which project away from the circular frame into the stream of air generated by a fan rotor, and in contrast, Takagi et al. describe a motor including a first circuit board and a second circuit board positioned to face each other, wherein a radiating sheet is disposed between the top face (leading end face) of the first circuit board for thermal transfer. Accordingly, Applicants submit that there is no teaching nor suggestion in these two patents other than a motor including cooling fins extending radially out from the outer periphery of the circular frame.

Furthermore, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the cited art so that the claimed invention is rendered obvious. Specifically, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the art to deprecate the claimed invention. Further, it is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. The present Section 103 rejection is based on a combination of teachings selected from multiple patents in an attempt to arrive at the claimed invention. Specifically, Permuy describes cooling fins which project away from the circular frame into the stream of air generated by a fan rotor, and Takagi et al. describe a motor including a first circuit board and a second circuit board disposed to face each other, wherein a radiating sheet is disposed between the top face (leading end face) of the first circuit board for thermal transfer. Since there is no suggestion in the cited art for the combination, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicants request that the Section 103 rejections be withdrawn.

Further, and to the extent understood, neither Permuy nor Takagi et al., considered alone or in combination, describe or suggest the claimed combination, and as such, the presently pending claims are patentably distinguishable from the cited combination. Specifically, Claim 1 recites a motor endshield assembly that includes "an endshield comprising an outer surface, an inner surface, a shaft opening extending therebetween, and a plurality of recessed fins extending radially outward from said shaft opening towards an outer periphery of the endsheild, such that each of said recessed fins is positioned between said outer surface and said inner surface."

Neither Permuy nor Takagi et al., considered alone or in combination, describe or suggest a motor endshield assembly as recited in Claim 1. More specifically, neither Permuy nor Takagi et al., considered alone or in combination, describe or suggest an endshield having recessed fins extending radially outward from a shaft opening towards an outer periphery of

the endsheild, such that each of the recessed fins is positioned between an outer surface and an inner surface of the endsheild. Rather, in contrast to the present invention, Permuy describes a motor having a thermal screen having an outer circular frame or hoop portion and straight cooling fins which project away from the circular frame into the stream of air generated by a fan rotor such that the thermal screen captures heat given off by the electronic control device and dissipates that heat into the stream of air via the cooling fins and Tekagi et al. describe a motor including a first circuit board and a second circuit board disposed to face each other, wherein a radiating sheet is disposed between the top face (leading end face) of the first circuit board for thermal transfer. For at least the reasons set forth above, Claim 1 is submitted to be patentable over Permuy in view of Takagi et al.

Claims 13 and 14 depend, directly or indirectly, from independent Claim 1. When the recitations of Claims 13 and 14 are considered in combination with the recitations of Claims 1, Applicants submit that dependent Claims 13 and 14 likewise are patentable over Permuy in view of Takagi et al.

Claim 21 recites a method of assembling a motor endshield assembly for an electronically commutated motor, wherein the endshield includes an inner surface, an outer surface, a shaft opening extending therebetween, and a plurality of recessed fins extending radially outward from the shaft opening towards an outer periphery of the endsheild, such that each of the recessed fins is positioned between the outer surface and the inner surface, the method includes “positioning the control assembly in contact with the inner surface of the endshield...connecting the power assembly to the control assembly.”

Neither Permuy nor Takagi et al., considered alone or in combination, describe or suggest a motor endshield assembly as recited in Claim 21. More specifically, neither Permuy nor Takagi et al., considered alone or in combination, describe or suggest an endshield having an inner surface, an outer surface, a shaft opening extending therebetween, and a plurality of recessed fins extending radially outward from the shaft opening towards an outer periphery of the endsheild, such that each of the recessed fins is positioned between the outer surface and the inner surface. Rather, in contrast to the present invention, Permuy describes a motor having a thermal screen having an outer circular frame or hoop portion and

straight cooling fins which project away from the circular frame into the stream of air generated by a fan rotor such that the thermal screen captures heat given off by the electronic control device and dissipates that heat into the stream of air via the cooling fins and Tekagi et al. describe a motor including a first circuit board and a second circuit board disposed to face each other, wherein a radiating sheet is disposed between the top face (leading end face) of the first circuit board for thermal transfer. For at least the reasons set forth above, Claim 21 is submitted to be patentable over Permuy in view of Takagi et al.

Claims 24 and 25 depend, directly or indirectly, from independent Claim 21. When the recitations of Claims 24 and 25 are considered in combination with the recitations of Claims 21, Applicants submit that dependent Claims 24 and 25 likewise are patentable over Permuy in view of Takagi et al.

The rejection of Claims 4-9, 15, 19, 20, 22, and 23 under 35 U.S.C. § 103(a) as being unpatentable over Permuy (U.S. Patent No. 6,031,306) in view of Liberati (U.S. Patent No. 5,383,092) is respectfully traversed.

Permuy is described above. Liberati describes an arrangement for connecting a plurality of transistors 46 to a heat sink 34 surrounding one end 22 of a control motor 10 for a mailing machine. The arrangement includes two sets of three transistors 46, and each set is mounted on the heat sink 34 by a single screw 50, washer 54, thermal transfer pad 160, insulator strip 164, and hold-down spring 170, rather than by separate screws, lock washers, flat washers, insulators and nuts for each of the six transistors 46.

Applicants respectfully submit that the Section 103 rejection of the presently pending claims is not a proper rejection. As is well established, obviousness cannot be established by combining the teachings of the cited art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. Neither Permuy nor Liberati, considered alone or in combination, describe or suggest the claimed combination. Furthermore, in contrast to the assertion within the Office Action, Applicants respectfully submit that it would not be obvious to one skilled in the art to combine Permuy with Liberati, because there is no motivation to combine the references suggested in the art. Additionally,

the Examiner has not pointed to any prior art that teaches or suggests combining the disclosures, other than Applicants' own teaching. Rather, only the conclusory statement that "it would have been obvious to one of ordinary skill in the art to combine" the structure of the motor of Permuy with the structure of the motor having a thermal pad of Liberati "in order to provide good heat conductivity through the end shield" suggests combining the disclosures.

As the Federal Circuit has recognized, obviousness is not established merely by combining references having different individual elements of pending claims. Ex parte Levengood, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). MPEP 2143.01. Rather, there must be some suggestion, outside of Applicants' disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicant's disclosure. In re Vaeck, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991). In the present case, neither a suggestion or motivation to combine the prior art disclosures, nor any reasonable expectation of success has been shown. Moreover, Applicants respectfully suggest that no combination of Permuy and Liberati would provide a reasonable expectation of success. Specifically, Permuy describes a motor having a thermal screen having an outer circular frame or hoop portion and straight cooling fins which project away from the circular frame into the stream of air generated by a fan rotor, and in contrast, Liberati describes an arrangement for connecting a plurality of transistors to a heat sink wherein the transistors are mounted in sets on the heat sink by a single screw using a hold-down spring, rather than by separate screws for each transistor. Accordingly, Applicants submit that there is no teaching nor suggestion in these two patents other than a motor including cooling fins extending radially out from the outer periphery of the circular frame.

Furthermore, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the cited art so that the claimed invention is rendered obvious. Specifically, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the art to deprecate the claimed invention. Further, it is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. The present Section 103 rejection

is based on a combination of teachings selected from multiple patents in an attempt to arrive at the claimed invention. Specifically, Permuy describes cooling fins which project away from the circular frame into the stream of air generated by a fan rotor, and Liberati describes an arrangement for connecting a plurality of transistors to a heat sink wherein the transistors are mounted in sets on the heat sink by a single screw using a hold down spring, rather than by separate screws for each transistor. Since there is no suggestion in the cited art for the combination, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated disclosures have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicants request that the Section 103 rejections be withdrawn.

Further, and to the extent understood, neither Permuy nor Liberati, considered alone or in combination, describe or suggest the claimed combination, and as such, the presently pending claims are patentably distinguishable from the cited combination. Specifically, Claim 1 recites a motor endshield assembly that includes “an endshield comprising an outer surface, an inner surface, a shaft opening extending therebetween, and a plurality of recessed fins extending radially outward from said shaft opening towards an outer periphery of the endsheild, such that each of said recessed fins is positioned between said outer surface and said inner surface.”

Neither Permuy nor Liberati, considered alone or in combination, describe or suggest a motor endshield assembly as recited in Claim 1. More specifically, neither Permuy nor Liberati, considered alone or in combination, describe or suggest an endshield having recessed fins extending radially outward from a shaft opening towards an outer periphery of the endsheild, such that each of the recessed fins is positioned between an outer surface and an inner surface of the endsheild. Rather, in contrast to the present invention, Permuy describes a motor having a thermal screen having an outer circular frame or hoop portion and straight cooling fins which project away from the circular frame into the stream of air generated by a fan rotor such that the thermal screen captures heat given off by the electronic control device and dissipates that heat into the stream of air via the cooling fins and Liberati describes an arrangement for connecting a plurality of transistors to a heat sink wherein the

transistors are mounted in sets on the heat sink by a single screw using a hold down spring, rather than by separate screws for each transistor. For at least the reasons set forth above, Claim 1 is submitted to be patentable over Permuy in view of Liberati.

Claims 4-9, and 15 depend, directly or indirectly, from independent Claim 1. When the recitations of Claims 4-9, and 15 are considered in combination with the recitations of Claims 1, Applicants submit that dependent Claims 4-9, and 15 likewise are patentable over Permuy in view of Liberati.

Claim 16 recites a motor endshield for an electronically commutated motor, the endshield includes “a shaft opening configured to receive a motor shaft...an internal surface comprising a substantially flat raised area...an external surface comprising a raised cylindrical portion surrounding said opening and a plurality of recessed fins extending radially outward from said shaft opening towards an outer periphery of the endshield, such that each of said recessed fins is positioned between said external surface and said internal surface.”

Neither Permuy nor Liberati, considered alone or in combination, describe or suggest a motor endshield for an electronically commutated motor as recited in Claim 16. More specifically, neither Permuy nor Liberati, considered alone or in combination, describe or suggest an endshield having an external surface that includes a plurality of recessed fins extending radially outward from a shaft opening towards an outer periphery of the endshield, such that each of the recessed fins is positioned between the external surface and an internal surface. Rather, in contrast to the present invention, Permuy describes a motor having a thermal screen having an outer circular frame or hoop portion and straight cooling fins which project away from the circular frame into the stream of air generated by a fan rotor such that the thermal screen captures heat given off by the electronic control device and dissipates that heat into the stream of air via the cooling fins, and Liberati describes an arrangement for connecting a plurality of transistors to a heat sink wherein the transistors are mounted in sets on the heat sink by a single screw using a hold down spring, rather than by separate screws for each transistor. For at least the reasons set forth above, Claim 16 is submitted to be patentable over Permuy in view of Liberati.

Claims 19 and 20 depend, directly or indirectly, from independent Claim 16. When the recitations of Claims 19 and 20 are considered in combination with the recitations of Claim 16, Applicants submit that dependent Claims 19 and 20 likewise are patentable over Permuy in view of Liberati.

Claim 21 recites a method of assembling a motor endshield assembly for an electronically commutated motor, wherein the endshield includes an inner surface, an outer surface, a shaft opening extending therebetween, and a plurality of recessed fins extending radially outward from the shaft opening towards an outer periphery of the endshield, such that each of the recessed fins is positioned between the outer surface and the inner surface, the method includes “positioning the control assembly in contact with the inner surface of the endshield...connecting the power assembly to the control assembly.”

Neither Permuy nor Liberati, considered alone or in combination, describe or suggest a motor endshield assembly as recited in Claim 21. More specifically, neither Permuy nor Liberati, considered alone or in combination, describe or suggest an endshield having an inner surface, an outer surface, a shaft opening extending therebetween, and a plurality of recessed fins extending radially outward from the shaft opening towards an outer periphery of the endshield, such that each of the recessed fins is positioned between the outer surface and the inner surface. Rather, in contrast to the present invention, Permuy describes a motor having a thermal screen having an outer circular frame or hoop portion and straight cooling fins which project away from the circular frame into the stream of air generated by a fan rotor such that the thermal screen captures heat given off by the electronic control device and dissipates that heat into the stream of air via the cooling fins and Liberati describes an arrangement for connecting a plurality of transistors to a heat sink wherein the transistors are mounted in sets on the heat sink by a single screw using a hold down spring, rather than by separate screws for each transistor. For at least the reasons set forth above, Claim 21 is submitted to be patentable over Permuy in view of Liberati.

Claims 22 and 23 depend, directly or indirectly, from independent Claim 21. When the recitations of Claims 22 and 23 are considered in combination with the recitations of

Claim 21, Applicants submit that dependent Claims 22 and 23 likewise are patentable over Permuy in view of Liberati.

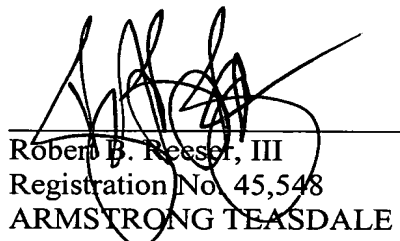
For the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 4-9, 11, 13-15, 18-20, and 22-25 be withdrawn.

The objection to Claims 13, 14, 24 and 25 is respectfully traversed. More specifically, Claims 13 and 14 depend from amended independent Claim 1 which is submitted to be in condition for allowance. When the recitations of Claims 13 and 14 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 13 and 14 likewise are in condition for allowance. Additionally, Claims 24 and 25 depend from amended independent Claim 21 which is submitted to be in condition for allowance. When the recitations of Claims 24 and 25 are considered in combination with the recitations of Claim 21, Applicants submit that dependent Claims 13 and 14 likewise are in condition for allowance.

For the reasons set forth above, Applicants request that the objection to Claims 13, 14, 24, and 25 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



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